Development of Synthesis Strategies of Quinoline for the Inhibition of HIV-Integrase

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According to the World Health Organization, approximately 40 million people worldwide are infected with HIV-1. While there is no cure for HIV-1, Highly Active Antiretroviral Therapy (HAART) is currently the only method of treatment that manages the infection giving the patient an improved quality of life and a longer lifespan. As viral resistance increases existing medications lose efficacy therefore there is a continual need for the development of new prescription drugs. Currently, the lab is investigating chemical synthesis strategies of novel quinolines to be tested against the HIV-integrase enzyme. Starting from commercially available substituted anthranilic acids, the researchers have prepared a series of multi-substituted quinolines over a nine steps linear synthesis. These compounds have been assayed for inhibition against HIV integrase and multimerization in Professor Jacques Kessl's laboratory.♀

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